

BIOSOLIDS EXPERT PANEL

Combined Meeting of the Environment and Health Subcommittees

Meeting Minutes

Date: July 23, 2008

Location: Monticello Fire Station, Mill Creek Rd, Charlottesville, VA

Panel Members Present:

- **Henry Staudinger**, Citizen representative
- **Dr. Greg Evanylo**, Virginia Tech Department of Crop and Soil Environmental Sciences
- **Dr. W. Lee Daniels**, Virginia Tech Department of Crop and Soil Environmental Sciences
- **Jerre Creighton**, Virginia Department of Forestry
- **Scott P. Johnson**, Virginia Department of Agriculture and Consumer Services
- **Dr. Alan Rubin**, consultant (principal Envirostrategies, LLC)
- **Christopher Peot**, Blue Plains, Biosolids Manager
- **Karen Pallansch**, Alexandria Sanitation Authority
- **Barry Dunkley**, City of Danville
- **James Golden**, Virginia Department of Environmental Quality
- **Dr. Susan Fischer-Davis**, Virginia Department of Health
- **Dr. Robrt Hale**, Virginia Institute of Marine Science
- **Dr. Ralph O. Allen**, University of Virginia School of Medicine
- **Dr. Tom Fox**, Virginia Tech Department of Forestry

The following members were unable to attend:

- **Dr. Robert Call**, Medical practitioner
- **Dr. Mark Levine**, Virginia Department of Health
- **Russ Baxter**, Virginia Department of Conservation and Recreation
- **Dr. Rima Franklin**, Virginia Commonwealth University Center for Environmental Studies
- **Dr. Howard Kator**, Virginia Institute of Marine Science
- **Dr. Jonathan Sleeman**, Virginia Department of Game and Inland Fisheries
- **Dr. Leonard Vance**, Virginia Commonwealth University School of Medicine
- **Dr. John T. Novak**, Virginia Tech Department of Civil and Environmental Engineering

Supporting staff present:

- **Jeff Corbin**, Office of the Secretary of Natural Resources
- **Angela Neilan**, Virginia Department of Environmental Quality
- **Neil Zahradka**, Virginia Department of Environmental Quality
- **Christina Wood**, Virginia Department of Environmental Quality
- **Robert Hicks**, Virginia Department of Health
- **Jacob Powell**, Virginia Department of Conservation and Recreation

Introduction

Neil Zahradka, Manager, DEQ Office of Land Application brought the meeting to order at 9:05 a.m.

Facilitator, Angela Neilan, reviewed the agenda as it was proposed. Ms. Neilan reminded the citizens in attendance to sign up if they wanted to speak during the public comment and that they would each have 3 minutes.

Minutes

Ms. Neilan asked if there were any changes needed in the minutes for the June 25, 2008 meeting. Amber Carwile submitted a written transcript of her presentation to the panel. The panel accepted the minutes, including the changes to be made.

9:20 a.m. – Ms. Neilan opened the discussion by asking each panel member to identify one recommendation that they would like to make to the General Assembly.

Dr. Hale: Track health effects, whether the Wing study or some other protocol is adopted.

Alan Rubin: Articulation of the roles and responsibilities of DEQ, VDH, local monitors in regard to pollutant sensitive individuals and environmentally sensitive sites. Ensure that these individuals and sites are identified prior to application. Codify these responsibilities. He referred to an email that was sent to the panel on 7/3/08.

James Golden: Provide information to the GA about what studies the Panel recommends; provide guidance on where study is needed and who should conduct it VA universities.

Dr. Evanylo: Propose a study (and funding) to link biosolids and illness.

Henry Staudinger: Health studies need to be recommended, but the citizens need relief now. Look at sensitive individuals and sites. He referred to memos that he has submitted to the panel.

Dr. Fox: Development of an Environmental Management System (EMS) or Best management Practices (BMP) plan for biosolids land application. Include sensitive individuals and sites in the plan.

Dr. Daniels: Develop a regulation that directly addresses biosolids land application on reclamation sites and closed landfills. Currently a only memos address reclamation.

Chris Peot: 1. Adopt an incident response protocol, to gather data and look at trends; the WERF protocol needs improvement.

2. A rock solid communication plan need to be developed, involving DEQ, VDH, contractors and generators. Must develop a time frame for VDH response. Include a feedback loop.

3. Funding for alternative technology pilot projects – energy and land application.

Dr. Allen: 1.Emphasize dealing with local health district directors – there is a disconnect between the VDH Central Office and the local folks.

This is a DRAFT compilation of minutes as revised 9/19/2008. This document has not been accepted by the panel and is subject to revision to ensure accuracy.

2. More proactive mechanisms to invite community involvement and educate the public. People see the advertisement in the newspaper, but they may not understand what it means to them, so they don't get involved.
3. Assure adequate DEQ staffing.

Karen Pallansch: 1. Continue Fee funding to the biosolids program
2. Agree with a well documented communication protocol between DEQ, VDH, local monitors, generators and contractors.
3. Alternative technology – there are not a lot of choices. The state should take a leadership role - issue an RFP – “What is the state of the technology?” Also support studies into human health and wildlife health.

Barry Dunkley: 1. Improve communication in regard to permit development, the regulatory process and buffer establishment.
2. Continue study
3. Alternative Technology. Existing information – cost.

Jerre Creighton: Develop an SOP for the communication process, including notification of neighbors prior to application- individual Outreach. Each neighbor is notified personally prior to herbicide applications over thousands of acres. This is the only way to reach homebound individuals.

Dr. Fisher-Davis: Be candid about our inability to address cause/effect in relation to health issues. Separate out short term actions vs. long term: short term – communication and notification; long term – health effects, well being, real estate values, accumulation in wildlife, RFPs to involve universities. We don't want to say study everything, need to be more specific.

Scott Johnson: Need a short term and long term matrix to aid planning. Would like to see random sampling of biosolids to ensure the biosolids have been properly treated.

Barry Dunkley: We cannot address all of the questions the GA has posed.

Neil Zahradka: The regulations concerning biosolids are open for modification. A Technical advisory committee will be assembled in September. In addition to the items identified in the NOIRA to be addressed, recommendations from the Expert panel and the TAC will be considered. One of the goals is to bring consistency between the regulations that include Biosolids – VPA, VPDES, Fee Regulations. The regulations will be rewritten where needed. Modifications go through public notice and comment. TAC meetings are open to the public. Everyone is welcome to volunteer to be a TAC member.

Jerre Creighton: Dr. Wing's presentation gave us a lot to think about; some questions can not be answered. We need to prioritize recommendations.

Tom Fox: There is confusion over scope and scale of biosolids land application in VA. Recommend documenting county by county annually.

Neil Zahradka: DEQ is collecting the data and will produce an annual report.

This is a DRAFT compilation of minutes as revised 9/19/2008. This document has not been accepted by the panel and is subject to revision to ensure accuracy.

Dr. Allen: If it can't be completed in detail, we have enough information to put together a general notion of the scope.

Chris Peot: DCWASA is using ArcView to document land application activities.

Dr. Fox: Shape files could be uploaded from the applier when they provide notice of an application.

Henry Staudinger: Short solutions need to be specific enough to have an effect. DEQ should encourage a substantial EMS, which is a long term solution, since there is no system in place. Generators need to be involved, have an EMS, and take on a greater role and more responsibility.

Chris Peot: We need a communication tree.

Greg Evanylo: Encourage counties to develop ordinances for local monitors. There seem to be fewer complaints where the county has their own monitor?

James Golden: Separate out statutory recommendations vs. regulatory recommendations vs. Agency operation recommendations. Recommend that the GA incentivize the marketplace for funding.

Rob Hale: Include the existing EPA constituent survey – the NIH project - and obtain input from non-governmental agencies and environmental groups.

Scott Johnson, include one central number for biosolids complaints.

RECOMMENDATIONS

The questions posed by the General Assembly are as follows:

1. Are citizen-reported health symptoms associated with the land application of biosolids?
2. Do odors from biosolids impact human health and well-being and property values?
3. To what degree do biosolids-associated contaminants accumulate in food (plant crops and livestock)?
4. To what degree do biosolids-associated contaminants affect water quality?
5. What are the effects of an accumulation of biosolids-associated contaminants in wildlife?

When conducting the study, the panel will also take the following steps:

- I. Perform a detailed analysis of the chemical and biological composition of biosolids
- II. Evaluate the toxic potential of biosolid constituents derived from land application to humans, agricultural products, soil organisms, and wildlife
- III. Evaluate the capacity of alternative technologies to facilitate the beneficial use of biosolids and their disposal
- IV. Determine the availability, costs, and feasibility of technological alternatives to Class B land application (Class B refers to a level of treatment for biosolids.)
- V. Investigate the availability, capital and operations costs, feasibility, environmental and human health impact, and public acceptance of alternative technologies for the beneficial use of biosolids
- VI. Identify and recommend institutional and financial mechanisms for assisting localities in implementing alternative technologies at the state, local and regional levels

These questions can not be answered by the panel at this time. Further studies are needed to address the individual issues. Some of the following recommendations address ways of collecting more data to answer the questions. Others address what the panel sees as shortcomings in the current program, and would therefore improve overall operation and management of the program.

I. COMMUNICATION PLAN

- A. This recommendation may provide for the collection of data to help answer the question "Are citizen-reported health symptoms associated with the land application of biosolids?"
- B. Needs to be a well documented communication plan
 1. Documentation of the protocol
 2. Documentation of the communications that occur
- C. Needs to include:
 1. DEQ
 2. VDH
 3. DCR
 4. Local Monitors
 5. Generators
 6. Contractors

D. Needs to address

1. Communication vs. Notification
2. Improved, proactive public notification during Permit Development
3. Notification of neighbors prior to application
4. DEQ communication with VDH Health Directors in regard to health complaints
5. An established system to assist sensitive or chronically ill citizens
6. DEQ communication with DCR
7. Individual outreach and education – articulate the roles of DEQ, VDH - central office and local health districts - and the local monitors, and the processes they use
 - a. Roles in taking complaints – medical vs. environmental
 - b. Public notifications
 - c. Stopping an application
8. Provide one central phone number for health complaints.

II. CONTINUED STUDY

- A. This recommendation may help to answer each of the questions:
 1. Are citizen-reported health symptoms associated with the land application of biosolids.
 2. Do odors from biosolids impact human health and well-being and property values?
 3. To what degree do biosolids-associated contaminants accumulate in food (plant crops and livestock)?
 4. To what degree do biosolids-associated contaminants affect water quality?
 5. What are the effects of an accumulation of biosolids-associated contaminants in wildlife?
- B. Recommend the G.A. provide funding to Virginia Universities for research
 1. Evaluation of new technologies
 2. Human Health Impacts – cause and effect
 3. Wildlife Health Impacts – cause and effect
 4. Land Reclamation
- C. Consider existing data – EPA Constituent Survey
- D. Field sampling by inspectors and county monitors
 1. Does it become a requirement?
 2. Expand the list of parameters to be analyzed?

III. INCIDENT RESPONSE PROTOCOL

- A. This recommendation may provide data to help answer the questions:
 1. Are citizen-reported health symptoms associated with the land application of biosolids?
 2. Do odors from biosolids impact human health and well-being and property values?
 3. Will not show direct cause and effect, but trends. May lead to further study.
- B. WERF vs. Wing protocol?
- C. Who would implement the protocol?
- D. Who has the resources to house the system?
- E. What would we do with the data?

F. Need commitment of medical personnel

IV. ALTERNATIVE TECHNOLOGIES

- A. The recommendation provides for the study and promotion of improved land application techniques as well as other uses of biosolids, such as energy production.
- B. Provide funding for pilot studies

V. ENVIRONMENTAL MANAGEMENT SYSTEM

- A. This recommendation would help to ensure that biosolids are treated and managed to a level to provide a consistent product and minimize potential impact of the biosolids on health and the environment.
- B. Include Biosolids in the Environmental Excellence Program?

VI. SPECIFIC REGULATIONS – to the TAC

- A. Require localities to have an ordinance for local monitor

VII. RANDOM SAMPLING OF BIOSOLIDS

- A. This recommendation would answer the question “what’s in biosolids?” which would assist in the study of potential impact on health and wildlife.
- B. When to test?
 - 1. Random
 - 2. In response to a complaint – illness
- C. What to test for?
 - 1. Constituents identified in the permit (regulation)?
 - 2. Expand the parameter list beyond the regulation?
- D. Does this fit under Specific Regulations – VI.?

VIII. ADDRESS HEALTH ISSUES

- A. This recommendation encompasses several of the previous recommendations as follows:
 - 1. DEQ coordination with VDH in regard to health complaints
 - a. Roles in taking complaints
 - b. An established system to assist sensitive or chronically ill citizens
 - c. Stopping an Application
 - 2. Continued study to look at human health impacts - cause and effect
 - 3. Incident response protocol to collect data that may reveal trends in health complaints.

IX. FUNDING

- A. Continue fee funding the biosolids program

Lunch Break: 12:00 – 1:10 p.m.

Virginia Association of Realtors Survey

Dr. Hale discussed the results of the online survey conducted by the Virginia Association of Realtors (VAR). He had spoken with Martin Johnson, Director of Government Relations. Dr. Hale and

This is a DRAFT compilation of minutes as revised 9/19/2008. This document has not been accepted by the panel and is subject to revision to ensure accuracy.

Henry Staudinger wrote the questions, VAR provided the survey tool – Survey Monkey. The survey ran from 6/16/08 – 6/30/08. Over 300 people completed the survey; approximately 6% of association members. It appeared that about 2/3 of the respondents had some familiarity with biosolids; not all respondents answered all questions. The survey included duplicate questions regarding biosolids and manures; survey results were similar for both.

How does this fit into the final report? The survey was an effort to answer one of the General Assembly's questions - Do odors from biosolids impact human health and well-being and property values?"

Field Trip

Chris Peot announced that a field trip to the Henrico Water Reclamation Facility will be held on September 24, 2008. The trip will include a tour of the plant and a visit to an active land application site.

Next Panel Meeting

Wednesday, October 1, 2008.

Public Comment: 2:40 p.m.

Peter Fleetwood – Bionomics, Land Application Contractor for Western Virginia Water Authority: He is there to speak for the farmers who can not come. The farmers value their land and their family and would not put anything down that would decrease the value of the land. It increases the value of the farmland. He has been working in this business since 1971 and he wouldn't do something to hurt himself. Biosolids is a valuable resource, using local organic soil amendment by local employees using local trucking companies. He has 26 farmers receiving biosolids and there is a waiting list. It has value that should not be wasted, we must live in a sustainable environment – we can not waste water nor this nutrient and organic resource. It has a hidden value of improving water quality by adding organ value to the soil. We can not continue to waste our resources.

Amber Carwile – gave her 3 minutes to Janet Buckholz

Janice Buckholz: Why are here? Why is the panel here today? Why is this going on? Barry Dunkley – There have been questions and issues about land application of biosolids, and that's why the General Assembly is addressing complaints from the general public. Ms. Buckholz has been asking for 3 years for someone to write down that biosolids will not cause illness. Can anyone in the room do it today. Will someone here today put in writing, can you prove that biosolids are safe. Write down that you know everything in biosolids. Mr. Dunkley – you are asking for 100% guarantee. How can you put something on the land that you don't know what it is? She has asked from the president right on down the pole. You talk about buffers, how can you buffer something you don't know what you are buffering? This is what I get, no matter who I talk to, the waste industry, the biosolids industry, they won't answer my questions. This is what I want answered, I need to have answers. If you can't answer my questions, don't put it on the land.

Ricky Rash, farmer from Nottoway County: He came to assist his fellow farmers. He sent a letter to the panel about an asthmatic child and a mother with COPD. Farmers make decisions based on finances and trust and are asked to try new products. Financial incentive to try or not - is it a value added product? A trusted friend asked him to try Biosolids about 10 years ago. He checked with

extension service, land grant university - there was no smoking gun saying it was not safe. Financial incentive kicked in and he agreed to apply. Further look into health issues – CDC and the surgeon general does not say anything against it. VDH say it is relatively safe – but they also say it is safe to put a well 100 ft from a septic tank. The governmental agencies have signed off on it. He is a father first and a farmer second. He sees no smoking gun. We do not live in a perfect world. There are no absolute guarantees. Until the panel completes it's works and says that biosolids should not be used for health reasons, he will continue to use it.

Charles Hooks, VBC. He would like to make comments about the real estate survey. He is in the communications business and he thinks that the survey violated just about every rule of good procedure for doing a survey. It has too many problems. It is self selected. We don't know who filled it out; it was open to everyone on the internet. 20% of real estate agents say that biosolids have an effect on property values, but we don't know if it is positive or negative. The panel should be extremely careful about putting their stamp of approval on a survey which is worse than meaningless, it is misleading.

Henry Taylor, Louisa County: He is not an expert but he is a heavy user of biosolids. They just finished land applying today. If anyone would like to see it they can come to the farm and see the biosolids incorporated and on the surface. Completed 150 acres of application, most on top of hay for horses. They have been putting down biosolids for 12 – 15 years. Have never had anyone get sick. His wife speaks negatively of it but then says this isn't bad at all. He believes that a set back from the pond of 150 feet is unreasonable. The land application took about 4 days. The Biosolids were sent by rail to VA.

Phil Loar, Arlington Water Pollution Control Plant: They treat 29 MGD Wastewater and land apply 12,000 dry tons of biosolids in Virginia every year. Please consider that the panel is charged with determining if citizen reported health symptoms are associated with land application of biosolids. The available published studies are based on self reported symptoms of people who live near land application sites, rather than based on randomly sampled residents living near the land application sites and a control population living near fields that have not been land applied. We need accurate data from both populations if we want valid conclusions and meaningful information rather than assumptions. The funding required for valid research would require a significant investment, but the cost would be significantly less than arguing the same issues in legislative sessions for years to come. The Generators could provide part of the funding. Without real research do not try to placate genuinely concerned citizens with token gestures like doubling buffers, that not only cost the generators and farmers more, but will not have any effect on the health of the neighbors. Why would generators want real research conducted – because they believe that biosolids are safe to the environment and do not impact residents health when applied according to regulations. Contrary to the belief of some, those who work for the local jurisdictions and sanitation authorities do take seriously their responsibility to protect public health and the environment. While there is much we continue to study, there is much we already know about pathogens, concentration of trace elements and micro-constituents in biosolids land applied in Virginia. We know considerably less about the same in petroleum based chemical fertilizers. You are the experts, craft your recommendations upon good research based on sound science and leave the easier solutions based on expediency to the politicians, otherwise we will be back to debating the same issues year after year.